

23. (New) The method of claim 22, wherein steps a-c may be repeated periodically as needed to treat the patient and wherein the amount of insulin supplied to the bloodstream in step c remains relatively constant for each repetition of steps a-c.

) 24. (New) A method of regulating blood glucose levels in a patient comprising the steps of:

- a. supplying a predetermined amount of dry insulin powder to a chamber in an inhalation device;
- b. contacting the predetermined amount of dry insulin powder with a propelling gas to create an aerosolized dry cloud suspension comprising insulin powder suspended in air;
- c. inhaling in a single breath the aerosolized suspension at a breathing rate that is appropriate to allow bloodstream absorption of a controlled amount of insulin the controlled amount of insulin being adequate to create an acceptable serum glucose level in the patient; and
- d. wherein steps a-c may be repeated periodically as needed to regulate the patient's blood glucose level and wherein the amount of insulin absorbed in step c remains is relatively the same for each repetition of steps a-c.

25. (New) A repeatable method of regulating blood glucose levels in a human patient, the method comprising the steps of:

- a. supplying a fixed quantity of dry insulin powder to a portion of a hand held inhalation delivery device;
- b. propelling a gas over the fixed quantity of dry powder to produce, in a repeatable manner, an aerosolized suspension of insulin, the aerosolized suspension containing more insulin then is required in the blood stream of the patient to achieve a satisfactory blood glucose level; and
- c. flowing at least a portion of the aerosolized suspension through a mouth piece on the device and into the lungs of the patient in a manner sufficient to cause the patient to absorb in the patients bloodstream a sufficient, controlled quantity of insulin to achieve acceptable blood glucose level following treatment.

26. (New) The method of claim 25, wherein steps a-c may be repeated periodically as needed to treat the patient and wherein the amount of insulin supplied to the blood stream in step c remains relatively constant for each repetition of steps a-c.

27. (New) A method of administering a sufficient amount of insulin to a patient to achieve blood glucose control via a hand held device that has a mouth piece, the method comprising the steps of:

- a. mechanically delivering a predetermined amount of dry insulin powder to a part of the device, the predetermined amount of insulin being 2-10 times more insulin than is needed in the patient's bloodstream to lower serum glucose level to an acceptable value;
- b. aerosolizing the dry powder to form a dry dust cloud in the device;
- c. inhaling a single breath of the dry dust cloud,
- d. causing the patient to absorb in the patient's blood stream a portion of the insulin inhaled in the single breath, the portion being a controlled amount that is sufficient to lower the patient's blood glucose level to an acceptable level.

28. (New) The method of claim 27, wherein steps a-c may be repeated periodically as needed to treat the patient and wherein the amount of insulin supplied to the blood stream in step c remains relatively constant for each repetition of steps a-c.

29. (New) A method of treating diabetes mellitus in a patient comprising the steps of:

- a. measuring the patient's blood glucose level;
- b. supplying a predetermined amount of dry insulin powder to a hand held medical device; wherein the quantity of insulin powder supplied to the device is a function of the patient's blood glucose level;
- c. aerosolizing the dry insulin powder with a compressed gas to create a dry cloud of insulin within the device; and
- d. inhaling at least a portion of the dry insulin cloud at a flow rate sufficient to cause a sufficient, controlled amount of insulin to be delivered to the patient's lungs for

absorption into the patient's blood stream to produce an acceptable serum glucose level in the patient..

30. (New) The method of claim 28, wherein steps b-d may be repeated periodically as needed to treat the patient and wherein the amount of insulin supplied to the blood stream in step d remains relatively constant for each repetition of steps b-d.

31. (New) A repeatable method of lowering a patient's serum glucose level to acceptable value, the method comprising the steps of:

- a. supplying a predetermined amount of dry insulin powder to a medical device;
- b. releasing a compressed gas over the dry insulin powder to form a suspension comprised of dry insulin powder and air; and
- c. inhaling at least a portion of the suspension at a flow rate and volume sufficient to deposit a sufficient, controlled quantity of insulin in the patient's lungs so that the patient absorbs into the blood between 1 and 50 units of insulin, thereby lowering the patient's blood glucose level to an acceptable value between 50 mg/dl and 300 mg/dl.

32. (New) A method of administering a controlled and repeatable dose of insulin that is effective to produce an acceptable serum glucose level in a diabetic patient whose blood glucose level is an unacceptable level, the method comprising the steps of:

- a. creating a cloud of insulin powder within a hand held device, the cloud comprising insulin powder and a propelling gas, the cloud containing more insulin than is required to be absorbed by the patient to maintain an acceptable serum glucose level;
- b. inhaling at least a portion of the cloud from the device;
- c. facilitating the deposition of a sufficient and controlled quantity of insulin in the patient's lungs to cause the blood stream of the patient to absorb sufficient insulin to produce an acceptable serum glucose level.

33. (New) The method of claim 32, wherein the amount of insulin absorbed by the patient's bloodstream is between 1 and 50 units and the patient's blood glucose level is maintained at between 80 mg/dl and 200 mg/dl following the completion of step c.

34. (New) The method of claim 33, wherein the patient's blood glucose level is about 100 mg/dl after completion of step c.

35. (New) A method of administering insulin to a diabetic patient to control serum glucose levels via a hand held inhalation device, the method comprising the steps of:

- a. supplying a predetermined quantity of insulin powder to a portion of the device;
- b. aerosolizing the insulin powder to form a cloud of insulin within the device, the cloud comprised of air and suspended insulin particles, the insulin quantity of insulin particles being 2-10 times the dosage of insulin required to be delivered into the patient's blood to achieve acceptable blood glucose level;
- c. administering to the patients blood stream via the patients lungs a sufficient controlled and repeatable quantity of insulin from the cloud to produce an acceptable blood glucose level in the patient.

36. (New) The method of claim 33, wherein the step of administering the insulin is accomplished by inhaling at least a portion of the cloud from the device at an inhalation rate and volume that cause the insulin to be deposited into the patient's lungs in a manner that will cause absorption of a sufficient quantity of insulin to produce acceptable blood glucose level.

37. (New) The method of claim 34, wherein the rate and volume is predetermined and fixed.

38. (New) The method of claim 34, wherein the rate and volume are adjustable by the device.